

EXECUTED OATH OR DECLARATION

An executed declaration will follow.

$\frac{1}{2} \frac{d}{dt} \int_{\mathbb{R}^n} |u|^2 dx = \int_{\mathbb{R}^n} u \frac{du}{dt} dx = \int_{\mathbb{R}^n} u \left( -\Delta u + u^p \right) dx$   
 $= -\frac{1}{2} \frac{d}{dt} \int_{\mathbb{R}^n} |\nabla u|^2 dx + \frac{p+1}{p-1} \int_{\mathbb{R}^n} |u|^{p+1} dx$   
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